



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5

77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

US EPA RECORDS CENTER REGION 5



413671

REPLY TO THE ATTENTION OF:

MEMORANDUM

DATE: OCT 12 2007

SUBJECT: **ENFORCEMENT ACTION MEMORANDUM** - Determination of Threat to Public Health or Welfare or the Environment at the Crawford Station Former MGP Site, Chicago, Illinois (Site ID # B5HK)

FROM: Ross del Rosario, Remedial Project Manager/On-Scene Coordinator
Remedial Response Branch #2 – Section #5

THRU: Linda M. Nachowicz, Chief
Emergency Response Branch #2

TO: Richard C. Karl, Director
Superfund Division1

I. PURPOSE

The purpose of this Action Memorandum is to document the determination of an imminent and substantial threat to public health and the environment at the former Crawford Station MGP Site (Site) in Chicago, Illinois. The proposed removal action is necessary to mitigate the immediate threat to public health and the environment posed by the presence of uncontrolled hazardous wastes on site, including soils containing elevated levels of polynuclear aromatic hydrocarbons (PAH), and to document approval of the proposed time-critical removal action described herein.

The response action proposed herein will mitigate Site conditions by removal and off-site disposal of the contaminated soil. The high levels of PAH in surface and sub-surface soil at concentrations that exceed U.S. EPA Removal Action Levels (RALs) and the Illinois Environmental Protection Agency (IEPA) Tiered Approach to Corrective Action Objectives (TACO), the Site's plans for future construction, and the industrial/commercial use of the property requires that this action be classified as a time-critical removal. Additional activities will include determination of the extent of the contamination, the implementation of an air monitoring plan, water management, and a Site contingency plan. The project will require an estimated 12 months to complete. This removal action will be completed by the potentially responsible party (PRP) pursuant to an Administrative Order on Consent (AOC).

The Crawford Station Site is not on the National Priorities List (NPL) and there are no nationally significant or precedent setting issues associated with this Site.

II. SITE CONDITIONS AND BACKGROUND

CERCLIS ID # ILN000510192

RCRA ID: None

STATE ID: None

Category: Time-Critical Removal

Physical Location and Description

The former Crawford Station MGP Site is located in the City of Chicago, in the County of Cook. The site address is 3500 South Pulaski Road, Chicago, Illinois. The geographic coordinates of the site are 41° 29' 29" north latitude and -87° 44' 14" west longitude (see Figure 1). The Site is approximately 260 acres, of which 107 acres is currently owned by the PRP, Peoples Gas Light and Coke Company (Peoples Gas). The portion owned by Peoples Gas is currently used as a natural gas regulating and metering facility. The Site is bounded on the south by the Chicago Sanitary and Ship Canal (the "Canal"), on the north by the Chicago and Illinois Western Railroad, on the west by the Chicago and Western Indiana Belt Line Railroad, and to the east by Pulaski Road. Various commercial/industrial buildings and uncovered storage areas exist on the remainder of the Site (see Figure 2).

The area surrounding the Crawford Station MGP Site was screened for Environmental Justice (EJ) concerns using U.S. EPA Region 5's EJ Assist Tool (which applies the interim version of the national EJ Strategic Enforcement Assessment Tool (EJSEAT)). Census tracts with a score of 1, 2, or 3 are considered to be high-priority potential EJ areas of concern according to U.S. EPA Region 5. The Site is in a census tract with a score of 1 (see Attachment 3). Therefore, Region 5 considers this Site to be a high-priority potential EJ area of concern.

B. Site Background

In 1921, the Koppers Company of Pittsburgh and Peoples Gas (n/k/a Integrys) entered into an agreement whereby Koppers built, financed, and operated a by-product coke plant at the Crawford Station. Peoples Gas bought the gas and coke manufactured at the plant for distribution to consumers. Peoples Gas then acquired the facility in 1928. By the late 1930s, the Crawford Station facility produced three types of gas: coke oven gas, carbureted water gas, and reformed natural gas. During the 1930s, several additions and modifications were made to the plant, including construction of a light oil refining plant, addition of liquefied petroleum ("LP") gas peak shaving facilities, and conversion of five of the nine water gas sets to produce reformed natural gas and later oil gas. Production was halted temporarily between 1958 and 1962 and permanently after 1963. The Crawford Station was retired in 1965. Dismantling of the Crawford Station began in 1956 starting with portions of the coke oven plant. The remainder of the Crawford Station was dismantled in 1965. Peoples Gas eventually sold 146 acres of the Crawford Station property to First Industrial Realty Company in 1966.

C. Site Characteristics (Removal Action Area)

The Site has been subdivided into 21 parcels, designated as Parcels A through U. The 3 key parcels that are the subject of this action memo are Parcels A, B, and O, located in the southwest corner of the Site and is approximately 14 acres (i.e., the removal action area or RAA). Key features of the RAA are as follows:

- Generally unimproved open land with grass cover and some scrub trees. Surface topography is generally flat; however a slight depression exists along the approximate boundary of Parcels A & B and Parcel O.
- Natural gas utilities within the removal area and adjacent zones include a series of four high pressure gas mains ranging in size from 24-inch to 42-inch diameter. The gas lines traverse Parcel O and run parallel to the Chicago Sanitary and Ship Canal. At the western limits of Parcel O, two small gas regulator structures are present.
- A large sewer main, owned by the City of Chicago, traverses Parcels B and O in a north to south orientation. The sewer is 18 feet wide by 14 feet 4-inches high and has a cover depth of approximately six feet in the vicinity of the removal area.
- Small storage shed (metal structure) used by Peoples Gas for storage of empty drums. A private access roadway that traverses Parcel O is used by PGL to access the pipeline corridor.

D. Site Evaluation

Various investigations were conducted at the Site by several environmental consultants over the years. An environmental assessment of the Site was performed in 1992 and intrusive site investigations were initiated in 2001. These investigations indicated the presence of volatile organic compounds (VOCs), PAHs, metals, and cyanide in groundwater and soil samples collected in various locations at the Site. Impacts were observed below the water table at depths of up to 26 feet in various borings. These impacts include staining, odors, tar saturated soil, and tar in fractures. Based on results from investigations performed to date, the thickness of the fill layer ranges from 0 to 11 feet across the Site. Evidence of impacts, including tar, tar in fractures, tar-coated sand, naphthalene-type odor, and sheen, have been observed at depths of up to 26 feet at various locations at the Site. VOCs, PAHs, metals, and cyanide were detected in soil samples collected in various locations at the Site. MGP-related constituents were also shown to be migrating mainly through fractures in the brown/gray silty clay unit of the aquifer below the Site.

Specific to Parcels A, B, and O, site investigations conducted in 2001 and 2002 revealed this area to be a source of contamination at the Site. Specifically, the RAA was characterized by a hard layer of tar saturated soils at ground surface to about 4 feet below ground surface (bgs). In addition, investigation findings indicated the presence of tar appearing in fractures in the brown/grey silty clay. The tar in fractures was noted as occurring at a depth of 8 to 13 feet bgs and averaging about 2 feet thick;

In October 2008, U.S. EPA and Integrys entered into an Administrative Order on Consent for Integrys to conduct a remedial investigation and feasibility study of the Site. It was apparent from the contaminants found in the soil and groundwater (e.g., BTEX and PAH), described in the 2001 and 2002 site investigations, that this was the result of past MGP operations and that the RAA is a continuing source of the contamination.

III. THREATS TO PUBLIC HEALTH, WELFARE, OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES

The conditions at the Crawford Station Site present an imminent and substantial threat to the public health, or welfare, and the environment, and meet the criteria for a time-critical removal action as provided for in the National Contingency Plan (NCP) Section 300.415(b) (2). These criteria include, but are not limited to, the following:

Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substance or pollutants or contaminants.

A potential exposure risk is present in the RAA because of the existence of exposed MGP residual materials, including weathered tar at ground surface in multiple locations. Analysis of surface soil samples taken in the RAA during the 2001 investigation (see Attachment 4) indicated the presence of PAHs exceeding the State's TACO Tier 1 screening criteria for soil ingestion and corresponding Superfund RALs, as summarized in the following table:

Compound Name	TACO Tier 1 Screening Level	RAL	Reported Value (mg/kg)
Benzo(a)anthracene	8	230	1,960
Benzo(b)fluoranthene	8	230	1,150
Benzo(a)pyrene	0.8	23	895

Both TACO Tier 1 screening levels and the RALs were based on an industrial/commercial use scenario. Also, elevated benzene levels were found in subsurface soil in this area, ranging in concentration from 0.324 to 519 milligrams per kilogram (mg/kg). For comparison, the benzene TACO Tier I screening criteria for industrial/commercial soil ingestion is 100 mg/kg, while the corresponding RAL is 600 mg/kg. Acute inhalation exposure to PAHs such as benzo(a) anthracene, benzo(b) fluoranthene, or benzo(a) pyrene may cause eye, skin, and respiratory tract irritation. Repeated exposures to benzo(a)pyrene may result in an allergic skin reaction. Ingestion may result in irritation of the digestive tract. Long term chronic exposure to these compounds may cause reproductive or fetal effects. U.S. EPA has categorized these compounds as possible human carcinogens (Group 2A or 2B), with all 3 shown to be mutagenic in laboratory experiments. Benzene is a known human carcinogen. Long-term exposure to high levels of this compound in the air can lead to leukemia and cancers of the blood-forming organs.

High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface that may migrate.

MGP residuals in soil were identified at the surface, containing elevated levels of contaminants exceeding the State's TACO cleanup levels and EPA RALs as described above. Contaminated soil potentially could come in contact with people working nearby (this being an industrial/commercial park). Also, an occasional trespasser may come in contact with contaminated soil in the surface either through dermal contact or inhalation. Typical security measures, including fencing, are currently employed to limit potential exposure.

Actual or potential contamination of drinking water supplies or sensitive ecosystems.

Neither the Canal nor the groundwater underneath the Site is used as a drinking water source at this time. Nor is it within a sensitive ecosystem. However, sediments in the Canal did reveal the presence of contaminants found in the RAA (e.g., PAHs), although the exact exposure pathway(s) for contaminants to migrate to the sediments is unknown at this time. It is not known at this point whether the levels of contaminants in the sediments have any adverse impact to the surrounding ecosystem. While this segment of the canal does not appear to be used for recreational fishing or boating, it is conceivable that such activities may be occurring upstream and/or downstream from this segment. Also, the Canal is a navigable waterbody that is used for commercial shipping between Lake Michigan and the Mississippi River. Possible dermal contact or ingestion of contaminated sediment could occur given the presence of human activity in the Canal.

Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released.

Migration could occur as a result of wind action during dry periods, which could pose a breathing hazard. Such wind action could also lead to deposition of materials in uncontaminated areas. Migration of contaminants in surface soil could also occur through surface water flow or groundwater flow during wet periods, due to the high levels of PAHs and benzene found in some of the samples.

IV. ENDANGERMENT DETERMINATION

Given the Site conditions, the nature of the suspected hazardous substances on Site, and the potential exposure pathways described in Sections II and III above, actual or threatened releases of hazardous substances from this Site, if not addressed by implementing the response actions selected in this Action Memorandum, may present an imminent and substantial endangerment to public health, or welfare, or the environment.

V. PROPOSED ACTIONS AND ESTIMATED COSTS

The PRP shall implement the U.S. EPA-approved Removal Action Work Plan for Crawford Station MGP Site (Revision 1), dated September 6, 2011. Main components of the approved work plan include the following provisions which require compliance with:

- Preliminary activities such as site security and controls
- Site Preparation, including clearing and grubbing
- Targeted excavation within defined RAA (Figure 3 of work plan)
- Transportation and off-site disposal of excavated material
- Backfilling with clean fill
- Compliance with State and Local Requirements
- Construction Quality Assurance Measures such as
 - Air Monitoring
 - Fugitive Emissions Management Plan
 - Health and Safety Plan
 - Sampling and Analysis Plan
- Schedule for Completion
- Submission of Completion Report

In addition, the RPM has planned for the provision of post-removal Site control consistent with the provisions of Section 300.415(l) of the NCP. It is anticipated that any post-removal Site control will be undertaken by PRP.

The activities described in this memorandum will require an estimated 12 months to complete and cost approximately \$15,000,000.

The response actions described in this memorandum directly address the actual or threatened release at the Site of a hazardous substance, or of a pollutant, or of a contaminant which may pose an imminent and substantial endangerment to public health or welfare or to the environment. These response actions do not impose a burden on affected property disproportionate to the extent to which that property contributes to the conditions being addressed.

All hazardous substances, pollutants or contaminants removed off Site pursuant to this removal action for treatment, storage, and disposal will be treated, stored, or disposed of at a facility in compliance, as determined by U.S. EPA, with the U.S. EPA Off-Site Rule, 40 CFR 300.440.

Applicable or Relevant and Appropriate Requirements

All Federal and State applicable, relevant, and appropriate requirements (ARARs) will be complied with to the extent practicable.

VI. EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN

Given the Site conditions, the nature of the hazardous substances and pollutants or contaminants documented on Site, and the potential exposure pathways to nearby populations described in Section II, III, and IV, and V above, actual or threatened releases of hazardous substances and pollutants or contaminants from this Site, if not addressed by implementing or delaying the response actions selected in this Action Memorandum, may present an imminent and substantial endangerment to public health, welfare, or the environment, increasing the potential that hazardous substances will be released, thereby threatening the environment and the health and welfare of nearby residents and other persons who are in proximity to the Site.

VII. OUTSTANDING POLICY ISSUES

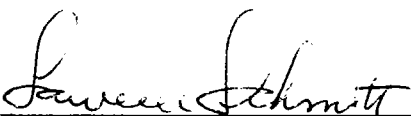
None.

VIII. ENFORCEMENT

For administrative purposes, information concerning the enforcement strategy for this Site is contained in the Enforcement Confidential Addendum.

IX. RECOMMENDATION

This decision document represents the selected removal action for the former Crawford Station MGP Site, located in Chicago, Illinois, developed in accordance with CERLCA, as amended, and is not inconsistent with the NCP. This decision is based upon the Administrative Record for the Site. Conditions at the Site meet the NCP Section 300.415(b)(2) criteria for a removal action and I recommend your approval of the proposed removal action. You may indicate your decision by signing below.

APPROVE:  DATE: 10/12/11
for Director, Superfund Division

DISAPPROVE: _____ DATE: _____
Director, Superfund Division

Enforcement Addendum

Attachments

1. Administrative Record Index
2. Site Location/Map (Figs. 1 & 2)
3. Environmental Justice Map
4. Soil Sampling Results (2001)

cc: S. Fielding, U.S. EPA, 5203-G
B. Everetts, Illinois EPA, **w/o Enf. Addendum**
S. Davis, Illinois DNR, **w/o Enf. Addendum**
M. Chezik, DOI, **w/o Enf. Addendum**

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ENFORCEMENT ADDENDUM

**CRAWFORD STATION SITE
CHICAGO, ILLINOIS**

(REDACTED 1 PAGE)

Attachment 1

U.S. ENVIRONMENTAL PROTECTION AGENCY REMOVAL ACTION

ADMINISTRATIVE RECORD FOR CRAWFORD STATION MGP SITE CHICAGO, COOK COUNTY, ILLINOIS

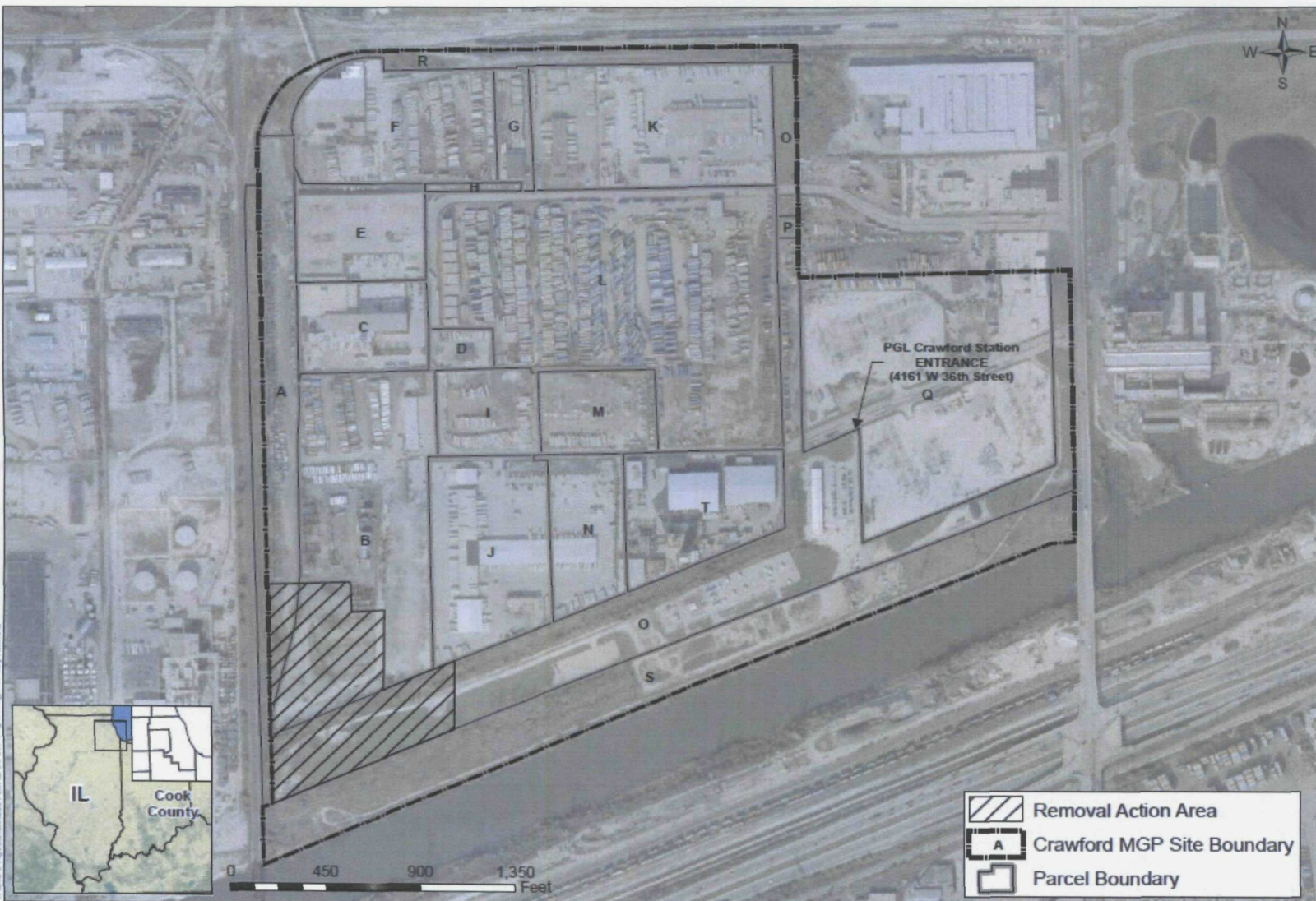
ORIGINAL
OCTOBER 4, 2011

<u>NO.</u>	<u>DATE</u>	<u>AUTHOR</u>	<u>RECIPIENT</u>	<u>TITLE/DESCRIPTION</u>	<u>PAGES</u>
1	07/00/01	Burns & McDonnell	The Peoples Gas Light and Coke Company	Site Investigation Report for the Former Crawford Station Manufactured Gas Plant Properties A & B (XTRA Intermodal)	
2	06/00/02	Burns & McDonnell	The Peoples Gas Light and Coke Company	Site Investigation Report for the Former Crawford Station Manufactured Gas Plant Property O	
3	00/00/00	del Rosario, R., U.S. EPA	Karl, R., U.S. EPA	Action Memorandum: Determination of Threat to Public Health or Welfare at the Crawford Station MGP Site (PENDING)	

Attachment 2

Site Location/Map (Figs. 1 & 2)

Y:\GIS\Project\20-2037\Map\2037\Map\Figure 2_Site Layout.mxd



Site Features

Removal Action Work Plan

Crawford Station MGP Site

Chicago, IL

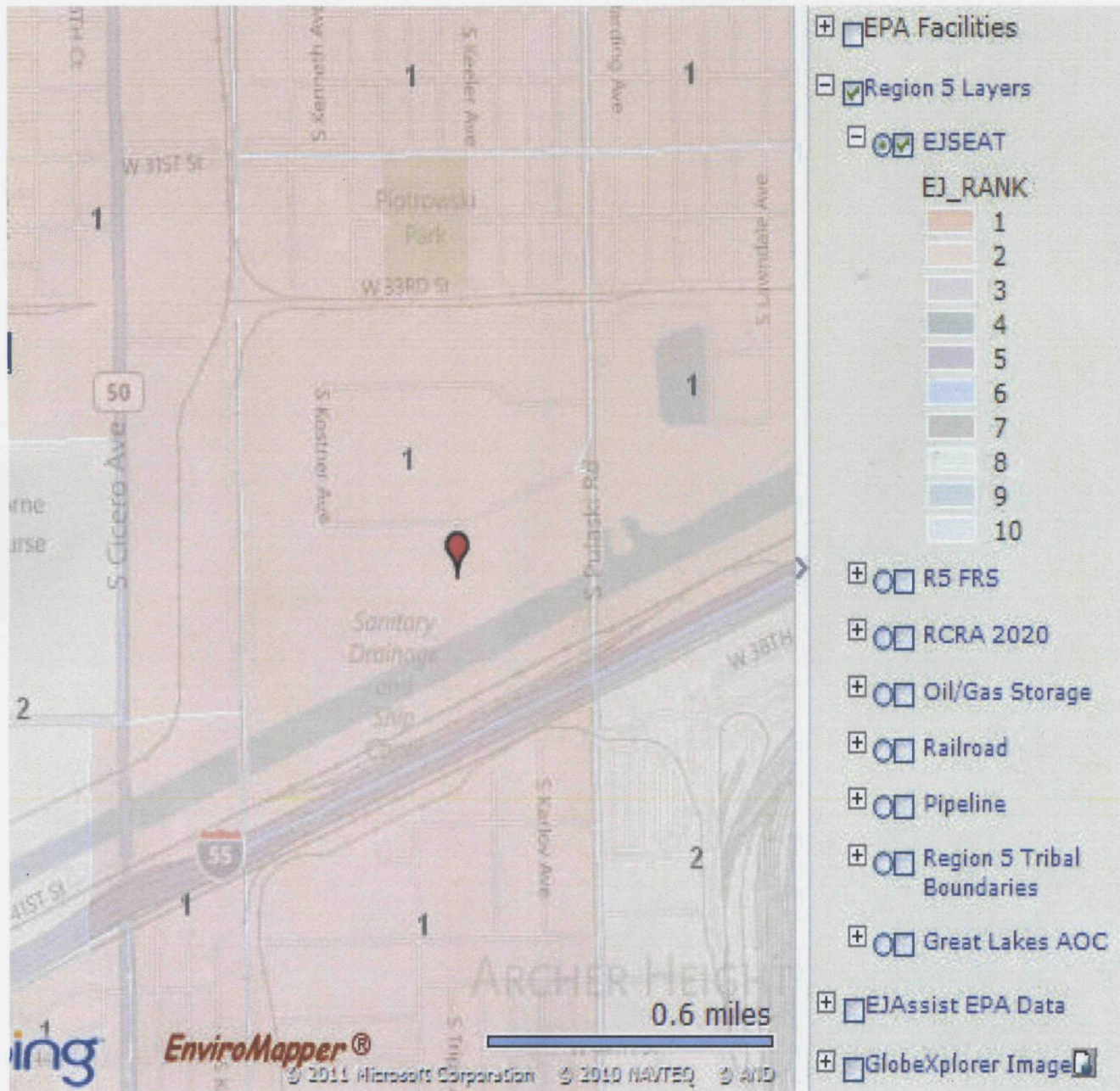


Project No. 2037
Issued date: 8/1/2011

Figure No. 2

Attachment 3

Crawford Station MGP Site Map Showing EJ SEAT Values For Surrounding Area



Attachment 4

Soil Sampling Result from 2001 Site Investigation

Note: Exceedances of TACO Tier 1 Screening Levels are in bold

Table 11 (Continued)						
Soil Ingestion Exposure Route (0-3' Below Ground Surface)						
Industrial/Commercial-Tier 1 Screening						
Crawford Station Properties A & B						
Compound/Analyte	Tier 1 Screening Level	Sample Location and Depth (ft.bgs)/Concentration				
		SP001-001	SP002-001	SP003-001	SP004-001	SP005-001
		3'-5'	0-1'	2-3'	0-3'	0-1'
WT-6' bgs						
WT-8' bgs						
WT-8' bgs						
TCL SVOCs, continued (mg/kg)						
Dimethyl phthalate	—	0.330 U	50.0 U	50.0 U	50.0 U	0.330 U
2,4-Dinitrotoluene*	8.4	0.330 U	50.0 U	50.0 U	50.0 U	0.330 U
2,6-Dinitrotoluene*	8.4	0.330 U	50.0 U	50.0 U	50.0 U	0.330 U
Di-n-octyl phthalate	41,000	0.330 U	50.0 U	50.0 U	50.0 U	0.330 U
Hexachlorobenzene*	4	0.330 U	50.0 U	50.0 U	50.0 U	0.330 U
Hexachlorobutadiene	—	0.33 U	50.0 U	50.0 U	50.0 U	0.330 U
Hexachlorocyclopentadiene	14,000	0.33 U	50.0 U	50.0 U	50.0 U	0.330 U
Hexachloroethane	2,000	0.33 U	50.0 U	50.0 U	50.0 U	0.330 U
Isophorone	410,000	0.33 U	50.0 U	50.0 U	50.0 U	0.330 U
2-Methylnaphthalene	—	0.665	1,150 J	3,950 J	82.4 J	4.18
2-Nitroaniline	—	1.6 U	50.0 U	50.0 U	50.0 U	1.60 U
3-Nitroaniline	—	1.6 U	50.0 U	50.0 U	50.0 U	1.60 U
4-Nitroaniline	—	1.6 U	50.0 U	50.0 U	50.0 U	1.60 U
Nitrobenzene	1,000	0.33 U	50.0 U	50.0 U	50.0 U	0.330 U
N-Nitrosodimethylamine	—	0.33 U	50.0 U	50.0 U	50.0 U	0.330 U
N-Nitrosodipropylamine*	0.8	0.33 U	50.0 U	50.0 U	50.0 U	0.330 U
N-Nitrosodiphenylamine	1,200	0.33 U	50.0 U	50.0 U	50.0 U	0.330 U
1,2,4-Trichlorobenzene	20,000	0.33 U	50.0 U	50.0 U	50.0 U	0.330 U
Acenaphthene	120,000	0.33 U	138 J	421 J	50.0 U	1.53
Acenaphthylene	—	0.856	1,560 J	5,180 J	244 J	19.9
Anthracene	610,000	0.552	1,490 J	4,010 J	343 J	15.7
Benzo(a)anthracene	8	2.64	1,980 J	4,140 J	587 J	51.2
Benzo(b)fluoranthene	8	1.70	1,180 J	2,170 J	248 J	27.8
Benzo(k)fluoranthene	78	1.31	978 J	1,980 J	331 J	23.4
Benzo(g,h,i)perylene	—	0.626	166 J	311 J	71.4 J	2,290
Benzo(a)pyrene	0.8	1.49	888 J	1,680 J	285 J	25.6
Chrysene	780	2.72	1,830 J	3,490 J	527 J	43.4
Dibenzo(a,h)anthracene*	0.8	0.33 U	58.8 J	184 J	50.0 U	0.694
Fluoranthene	82,000	3.59	4,530 J	9,500 J	1,120 J	68.6
Fluorene	82,000	0.33 U	1,830 J	6,020 J	333 J	9.51
Indeno(1,2,3-cd)pyrene	8	0.555	218 J	381 J	85.1 J	1.57
Naphthalene	82,000	1.53	4,980 J	22,400 J	177 J	3.67
Phenanthrene	—	2.34	5,780 J	13,800 J	1,020 J	49.7
Pyrene	61,000	3.32	2,970 J	6,200 J	769 J	64.2
Priority Pollutant Metals and Total Cyanide (mg/kg)						
Antimony	820	14 U	12 U	14 U	14 U	14 U
Arsenic	3	4.3	8.8	19	13	17
Beryllium	1	1	0.47	1.1	0.94	1.1
Cadmium	2,000	1 U	1 U	1 U	14	2.4
Chromium	10,000	6.6	3	5.3	14	54
Copper	82,000	48	22	65	200	65
Lead	400	100	21	480	180	69
Mercury	610	1.3	0.21	5.8	0.99	1.2
Nickel	41,000	22	18	30	16	43
Selenium	10,000	3.4	2.1	5.6	4.1	6.3
Silver	10,000	2 U	2 U	2 U	2.3 U	2.4 U
Thallium	160	2 U	2 U	2 U	2 U	2 U
Zinc	610,000	140	19	160	200	130
Total Cyanide	41,000	0.50 U	4.01	2.5 U	7.9	66.9

Notes:

(1) U - Indicates compound/analyte was analyzed for but not detected, the associated value is the sample reporting limit.

(2) J - Indicates an estimated value.

(3) WT-6' bgs - Water table is approximately (6) feet below ground surface.

(4) Shaded values exceed Tier 1 screening levels.

(5) — Toxicity criteria not available for ingestion exposure route (EPA 2001).

(6) bgs=below ground surface

(7) * Non-detect value exceeds TACO Tier 1 level for compound. Non-detect values are not highlighted.

(8) NA - Not Analyzed